



DIFFERENTIAL PRESSURE INDICATOR — SWITCH

120 / 122
180

- FILTRATION ● FLOW ● LEVEL ●
- UNIQUE MAGNETIC POINTER MOVEMENT ●
- PRESSURE MEDIA ISOLATED GAUGE ●



MODEL 120



MODEL 180

SWITZER Differential Pressure Indicator has a rugged design for industrial use to measure the differential pressure in a filtration system or across a flow orifice or level in a tank and indicates directly on a single gauge dial.

A specially designed magnetic movement allows the instantaneous sensing of both pressures while completely isolating the gauge function from the pressure chamber without the use of mechanical seals.

Unlike ordinary differential pressure gauges, these instruments can be supplied with switching facility (a reed switch in Model 120 / 122 and a microswitch in Model 180) to initiate an alarm signal or system shutdown. One or two switches can be fixed to open or close on either rising or falling differential pressure. Switch setting is easily made through an external adjustment.

GENERAL SPECIFICATIONS

	MODEL 120 – 150 mm dial MODEL 122 – 65 mm dial	MODEL 180 – 150 mm dial
Gauge Case	Stainless Steel. W/P to IP:66 for 150 mm dial ; G.F Nylon W/p to IP:65 for 65 mm dial	Stainless Steel. W/P to IP:66
Range Limits	0 – 0.7 to 0 – 7.0 Kg / Cm ²	0 – 250 mmWC to 0 – 1.6 Kg / cm ²
Wetted parts		
Sensor	316SS piston	Nitrile Diaphragm std. Viton® opt.
Body & End Fittings	304 SS std; 316 SS & Monel® opt.	304 SS std. 316 SS opt.
Range Spring	304 SS	304 SS
Cap Seals	Nitrile std; Viton / Silicone opt.	Nitrile std. Viton opt.
Magnet	Barium Ferrite	Barium Ferrite
Migration of fluid from HP to LP	Minor	Nil
Front Glass	Toughened	Toughened
Accuracy	± 2% Ascending	± 2% Ascending
Hysteresis	5%	5%
Max. Static Pressure	200 Kg / Cm ²	10 Kg / Cm ² std. / 20 kg / Cm ² opt
Max. Process Temperature	Nitrile – 120°C; Viton – 195°C; Silicone – 200°C	Nitrile – 120°C; Viton – 195°C
Process Connection	1/4" NPTF Std.	1/4" NPTF Std.
Switching (Optional)		
Form - SPDT	Reed Switch (one/two)	Microswitch (one only*)
Rating	0.25A, 3 Watts, 120V AC / DC	5A, 230V AC / 0.2A 220V DC Res. 5A 24V DC Res.
Switch Setting Adj.	Between 10% (falling) to 90% (raising) FSR	Between 10% (falling) to 90% (raising) FSR
On-off Differential	7–10%	7–10% for reed switch / 20% for microswitch
Electrical Connection	0.5 Mtr flying lead	Via M16 Nylon cable gland
Mounting	2" pipe / Panel / Surface	2" pipe / Panel / Surface

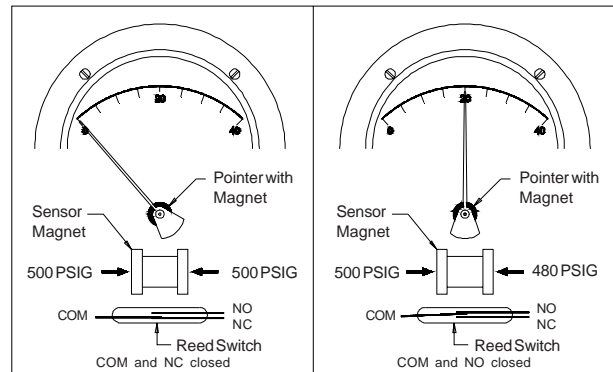
* If two switches are required in Model 180, two SPDT reed switches can be offered whose ratings are same as that of Model 120. As reed switches are low power rated devices, an auxiliary power relay unit is available as Style 150 in GH weatherproof housing at extra cost.



DESIGN AND OPERATION

SWITZER Differential Pressure Instrument works on the difference between two pressures (ΔP) acting on opposite side of a pressure sensor. Variation in pressure difference will cause the pressure sensor and linear magnet to move in proportion to this change. A rotary pointer magnet, located in a separate body cavity follows the linear movement of the pressure sensor magnet and indicates the differential pressure on the gauge scale.

Switching is achieved by locating reed / micro switches adjacent to the pressure chamber, The switches are activated when the field of the linear magnet interacts at a preset point with the reed / micro switch.



Standard Dial Ranges

Model 120 / 122

PSID	Kg / Cm ²	kPa
0 - 10	0 - 0.7	—
0 - 15	0 - 1.0	0 - 100
0 - 20	—	—
—	0 - 1.6	0 - 160
0 - 25	—	—
0 - 30	—	—
—	0 - 2.5	0 - 250
0 - 50	—	—
0 - 60	0 - 4.0	0 - 400
0 - 75	—	—
—	0 - 6.0	0 - 600
0 - 100	0 - 7.0	0 - 700

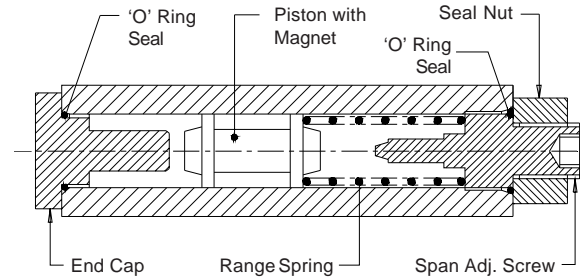
Model 180 *

PSID	Kg / Cm ²	mmWC
—	—	0 - 250
—	—	0 - 400
—	—	0 - 500
0 - 1	0 - 0.07	0 - 700
—	0 - 0.10	0 - 1000
0 - 2	0 - 0.15	0 - 1500
0 - 3	0 - 0.20	0 - 2000
—	0 - 0.25	0 - 2500
—	0 - 0.35	0 - 3500
—	0 - 0.50	0 - 5000
0 - 15	0 - 1.00	—
—	0 - 1.60	—

Note : Specify range with unit while ordering

* For Model 180 compound ranges available on request.

CONSTRUCTION — MODEL 120 / 122



ORDERING MATRIX

Example **120 4 1 0 0**

MODEL _____
120 150mm Dial, Piston operated, 200 Kg / Cm²
122 65mm Dial, Piston operated, 200 Kg / Cm²
180 150mm Dial, Diaphragm operated, 10 Kg / Cm²

BODY MATERIAL _____
4 304SS
2 316SS
M Monel for Model 120 / 122 only (except magnet)

SEALS FOR 120 & 122/ DIAPHRAGM FOR 180 _____
1 Nitrile
2 Viton
3 Silicone (not available for model 180)

SWITCHING
0 No switch
1 One SPDT Reed switch (Model 120 / 122)
 One SPDT Microswitch (Model 180)
2 Two SPDT Reed Switches (Model s 120 / 122 & 180)
3 One Reed Switch with Power Relay in GH housing
 (for Model 120 / 122 only)
4 Two Reed Switches with Power Relay in GH housing
 (for Model s 120 / 122 & 180)

MOUNTING
F 2" Pipe mounting
P Panel mounting
W Surface / Wall

This is not a contractual document. Prior notification of changes in specifications is impracticable due to continuous improvement

FOR **SWITZER'S** OFFICES IN INDIA

CHECK AT:

<http://www.switzerinstrument.com/offices.htm>